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Soil Conservation

JUNE 1965
VOL. XXX, NO. 11

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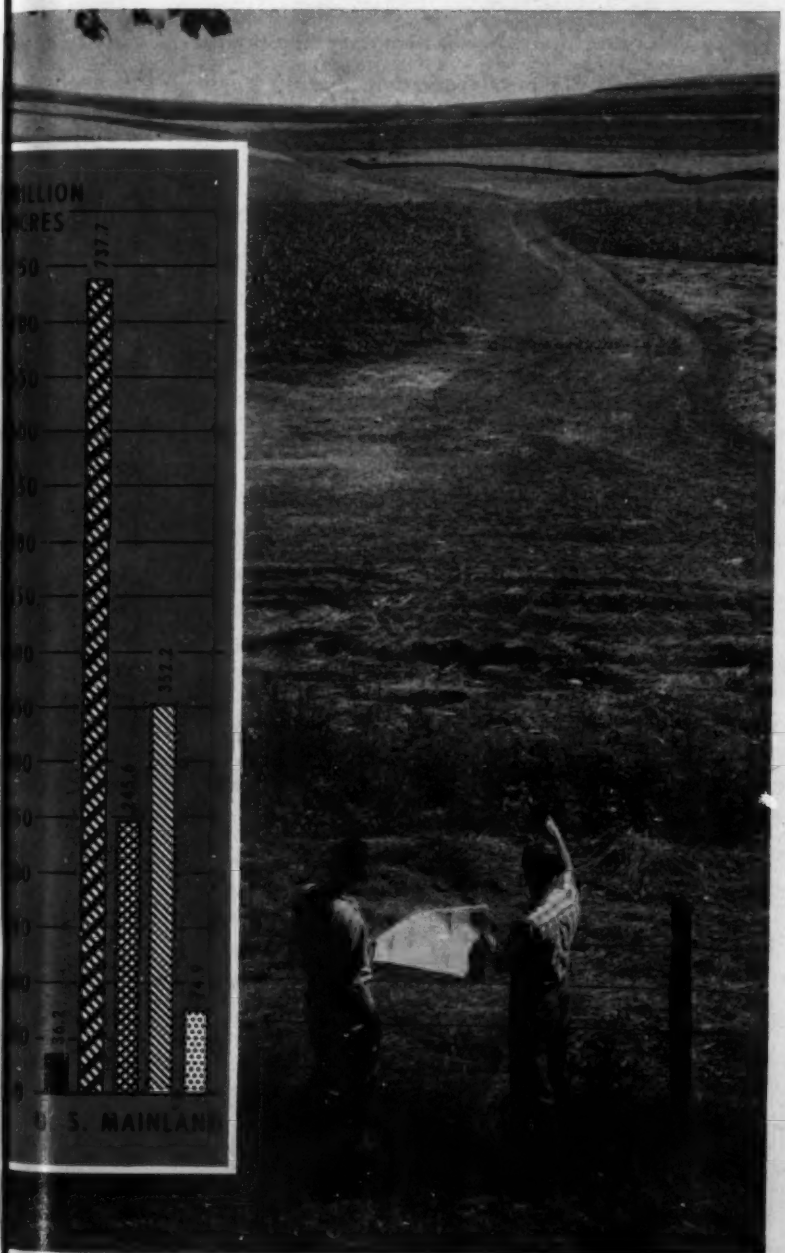

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SOIL CONSERVATION SERVICE

U. S. DEPARTMENT OF AGRICULTURE

JUNE 1965
VOL. XXX, NO. 11

Soil Conservation

Unfinished . . .

Seeking someone to comment on the unfinished conservation job detailed by the new Conservation Needs Inventory report (p. 245), we knew we had the answer when we thought of J. C. Dykes.

Few people have been so close to the center of SCS field activity for so long. The battle to curb erosion and improve the use of America's soil and water resources has revolved around his desk from the beginning of his career in the Western Gulf Region in 1935 to its conclusion as deputy administrator for field services of SCS.

Such a background makes his viewpoint on the current resource situation (p. 243) a challenge to all conservationists and responsible citizens.

Cover: The bar graph superimposed on the photo of an SCS conservationist talking to a farmer in Pennsylvania represents the extent of the four major conservation "problems" reported by the Conservation Needs Inventory. They are, l. to r. (after the short bar representing "no problems"), erosion hazard, excess water, unfavorable soil, and adverse climate. Being inherent properties of the soil and site, the hazards remain even under proper land use and treatment, and conservationists must continue to plan for fields like that in the photograph.

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"Stay with it boys!"

The Unfinished Job

Conservation is unstarted on a third, incomplete on another third, of land

By **J. C. Dykes,** *Deputy Administrator for Field Services*

ABOUT 40 DAYS after Congress created the Soil Conservation Service on April 27, 1935, I reported for duty with the new agency. About the time you receive this issue of *Soil Conservation* I will earn my 30-year pin.

Despite the usual custom of oldsters to look back at the work done and to recollect, I am more interested in looking at the soil and water conservation work that lies ahead.

A few weeks ago, Administrator Don Williams told the House Subcommittee on Agricultural Appropriations:

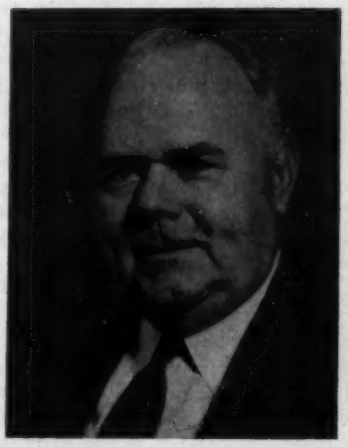
"The soil and water conservation job to date has been adequately accomplished on about a third of the privately owned lands in the country. Very substantial progress has been made on another third, but there remain highly critical erosion, sedimentation, and water management problems in much of rural America as well as in sprawling suburbia and along public thoroughfares that are rapidly being extended throughout rural America."

Our Prime Concern

It is the *unfinished* third and the *unstarted* third that are of prime concern to me and to all thinking Americans, rural and urban.

Experience dictates, too, that the third where conservation treatment has been "adequately accomplished" also must receive continuing attention.

New owners, new technology, and the changing desires for food, fiber, and recreation on the part of our ever-growing population will require repeated changes in land use and treatment on even the third of our privately owned land now regarded as adequately treated.



In other words, the conservation job is never finished.

The final, interpretive report of the National Inventory of Soil and Water Conservation Needs, published just a few weeks ago, points up the problems facing the Soil Conservation Service, cooperating agencies, and the American people.

Inventory of Needs

The Inventory was a cooperative project within the Department of Agriculture, but many soil conservation district cooperators and local and State representatives of State and Federal agencies participated in the collection and evaluation of the data. It is, by far, the best information of its kind that has ever been available to conservation agencies and the general public.

This report deserves the detailed study of anyone seriously concerned about America's soil and water resource base. I will not attempt to review it here, but, in brief, it tells us that nearly two-thirds of the cropland, three-fourths of the non-Federal pasture and range, and more than half the non-Federal woodland is inadequately treated for soil and water conservation.

The Inventory gives an analysis of the land capability of each county, State, and region, and thus defines the potentialities and the limitations for safe land use in each part of the country.

Moreover, it indentifies the dominant hazards that must be continuously dealt with in each case—susceptibility to erosion on 51 percent of the non-Federal rural land, unfavorable soil conditions in the root zone on 24 percent, excess water on 17 percent, and adverse climate on 5 percent. Only 3 percent of the land is free of hazards that limit use or require treatment.

Thirty years of travel over all the 48 mainland States has left some very definite impressions of

a few spots where the SCS, districts, and cooperating land owners and operators need to use all their imagination, ingenuity, and conservation tools to achieve conservation objectives.

Some Trouble Spots

These are some of the trouble spots that challenge the best that conservationists have to offer:

- The great Palouse area in the Northwest, with its deep fertile loess soils from which farmers harvest bountiful crops of wheat and peas, but where the slopes are often steep or long or both, the soil isn't really deep on the upper slopes, and the loess melts like sugar when exposed to melting snow or heavy rains.
- The once great grasslands of southwest Texas, now the victim of that water waster and range ruiner, invading brush.
- The Northern Lake States, covered with low-value woody vegetation and with climate and soils that set the area apart from the Corn Belt with which it is usually lumped.
- The Great Plains, that short-grass country between the true prairies on the east and the Rockies to the West with too much small grain and too little grass.
- Northern New Mexico, with its small farms, inadequate irrigation, and low-income Spanish-American farmers.
- Appalachia, the great Eastern uplift reaching from New York to Alabama, much of it with steep slopes, thin soils, and small, low-income farms.
- The Ozarks, where conditions do not differ greatly from those in Appalachia.
- And those areas near every great metropolitan center where encroaching urban sprawl brings with it special problems for conservationists and soil conservation districts.

The job is well started but it is by no means finished. The areas mentioned above as needing special attention only serve to emphasize the need for additional vigorous action.

Congress in its wisdom through the years has seen fit to provide some additional authorities and tools to supplement Public Law 46 that created the Soil Conservation Service. The various watershed acts, the Great Plains Conservation Program, and, just recently, the Appalachian Program, are tools that are being effectively used where they are authorized by law. They could be applied more widely if some of the limitations were removed or additional legislation passed.

The recognition by the Food and Agriculture Act of 1962 that recreation is agricultural use of land may, in the long run, be one of the most important pieces of conservation legislation ever enacted by the Congress. It is certain that income-producing recreation enterprises provide a major new alternative to land owners and operators in deciding how they will use and treat their land.

The same legislation made it possible for the Secretary of Agriculture, through a judicious use of old and new authorities, to initiate a series of pilot Resource Conservation and Development Projects. While it is too early to appraise the results of this effort, the promise is there.

The Old and New Together

New authorities and tools may be needed and the use of others expanded to make it possible to tackle with any real hope of success the unstarted third of the conservation job. If the need can be clearly shown, this writer believes that the tools will be provided. It will take some doing, but that is not new in the experience of the Service or of districts.

It seems that SCS is remarkably well prepared to hone and improve the old tools and to make excellent use of the new ones.

Service engineers have pioneered a whole new field of conservation work on the land and in watersheds. Starting with the most meager of guides they have developed the various engineering technologies to a high degree of efficiency.

The SCS took the agronomists out of the classrooms and off the experiment stations and put them to work in fields and pastures of the farms of America.

It moved biologists out of the wildlife refuges onto the private farms and ranches with remarkable results in improving food and cover for wildlife.

It busied foresters with helping millions of small woodland owners with their problems.

It set range men to showing ranchers on privately owned grasslands how to manage their soil, water, and grass for security and profit.

And it enlisted plant materials specialists to find, select, and test plants for use in all the other plant sciences.

New Kind of Technician

In addition, the Service has developed a new type of technician—the *soil conservationist*, who is part soil scientist, part agronomist, part biologist, part range conservationist, part woodland conservationist, part plant materials specialist, part engineer, part economist, and part farm management specialist—and the rest just plain, dedicated conservationist!

Soil conservationists carry the burden of direct planning and application assistance to land owners and operators on all except the more complex engineering jobs and other measures that require the services of the specialists. Together they will put the old and new tools together to get the work done.

A Final Word

This old hand is headed for the wagon but does want to repeat a saying that was common in Texas a hundred years ago.

After the Civil War, Texas had no money but a lot of cattle; the North had the money but little meat. It was inevitable that the meat and money would get together.

Enterprising Texas ranchers gathered herds of longhorns from the open range and sent them up the trail to railends in Kansas for shipping north and east. A few ranchers drove their own herds but most of them sent their cattle with professional trail drivers, often with some of their own cowboys as helpers.

Knowing that there would be rivers to swim, long dry drives, storms that might start stampedes, night herding, and Indian troubles, it was mandatory that the cowboys tend strictly to the business at hand. It was usual for an owner to admonish his trail drivers with these words as the herd started north, *"Stay with the cattle, Boys!"*

The conservation road ahead has obstacles to overcome—much more serious than those faced by the Texas cowboy on the trail. It also is much more important that ways be found to solve the conservation problems — important to all the people of this country, urban and rural—so the old hand says, *"Stay with it, Boys!"* ♦

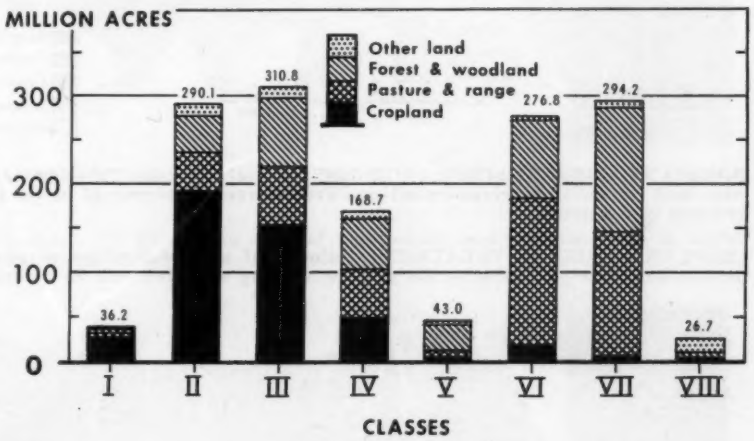
Conservation Needs Inventory Shows Dimensions of the Job

SIX CHARTS reproduced from the final report of the National Inventory of Soil and Water Conservation Needs (USDA Misc. Pub. 971), just published, summarize the major dimensions of the conservation job on the Nation's privately owned rural land.

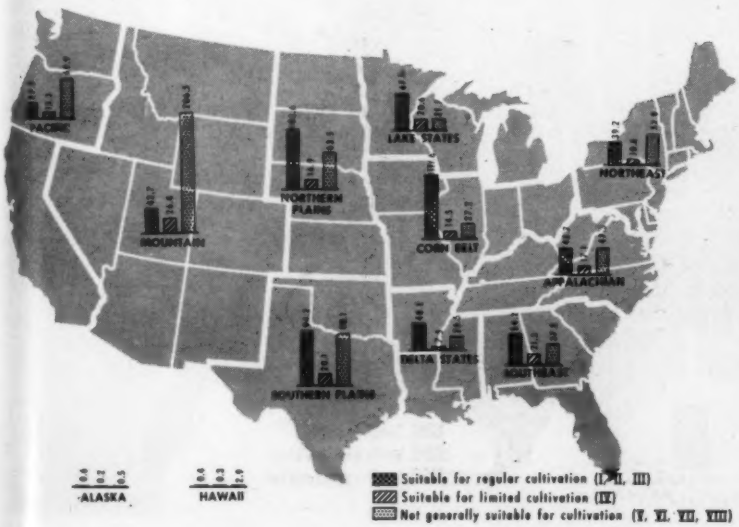
These charts portray the findings for the 48 mainland States. The national totals are changed only slightly by including Alaska and Hawaii.

The Inventory covered only the non-Federal rural land, on which the Soil Conservation Service and cooperating USDA agencies have responsibility for national conservation and land use programs.

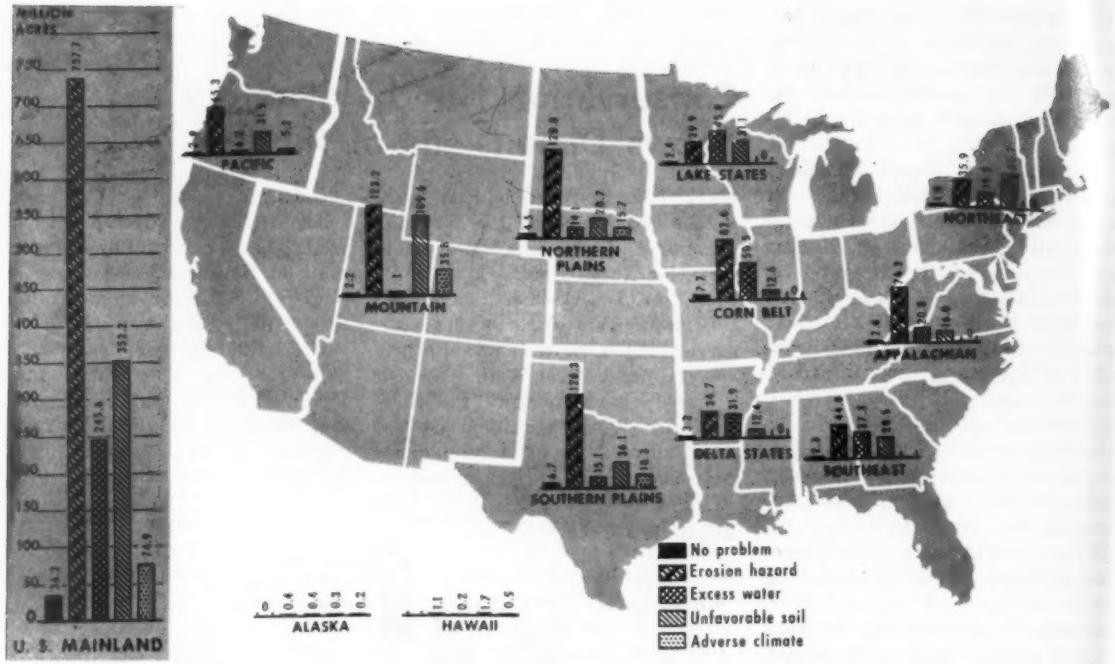
Estimates of conservation needs for cropland, pasture and range, and woodland are for the acreages expected to be in each land use by 1975.



LAND CAPABILITY AND LAND USE (above). Of the 1,448,037,000 acres of non-Federal rural land in the 48 mainland States covered by the Inventory, 3 percent is class I, 20 percent class II, 21 percent class III, 12 percent class IV, 3 percent class V, 19 percent class VI, 20 percent class VII, and 2 percent class VIII. The chart shows the proportions of each class used for each of the major agricultural uses in 1958.

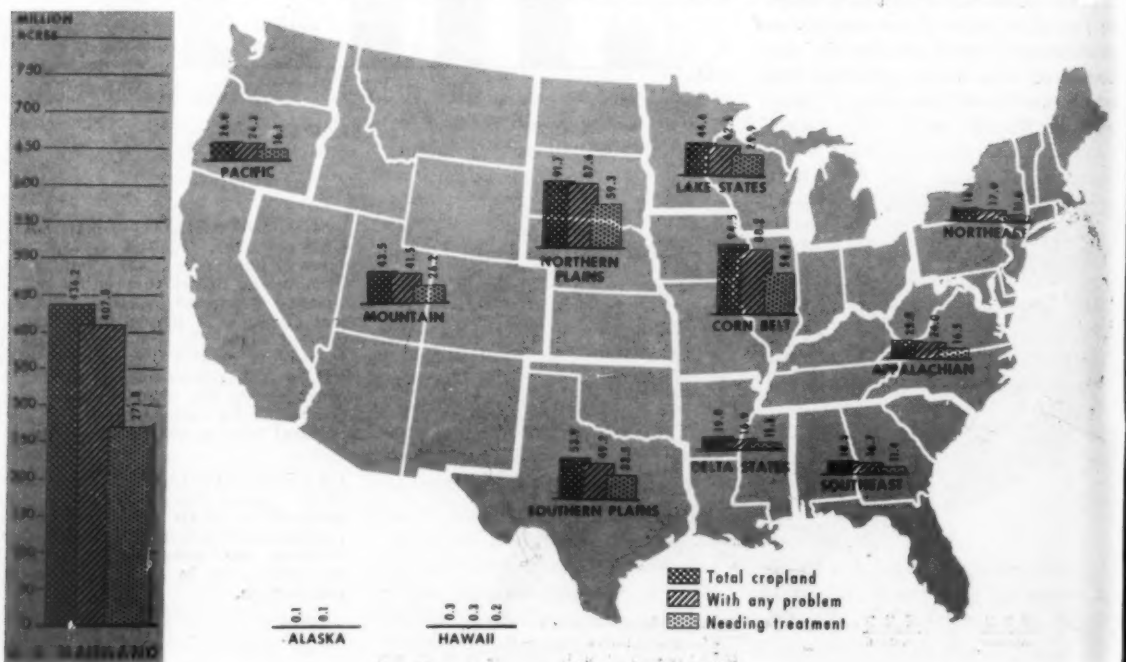


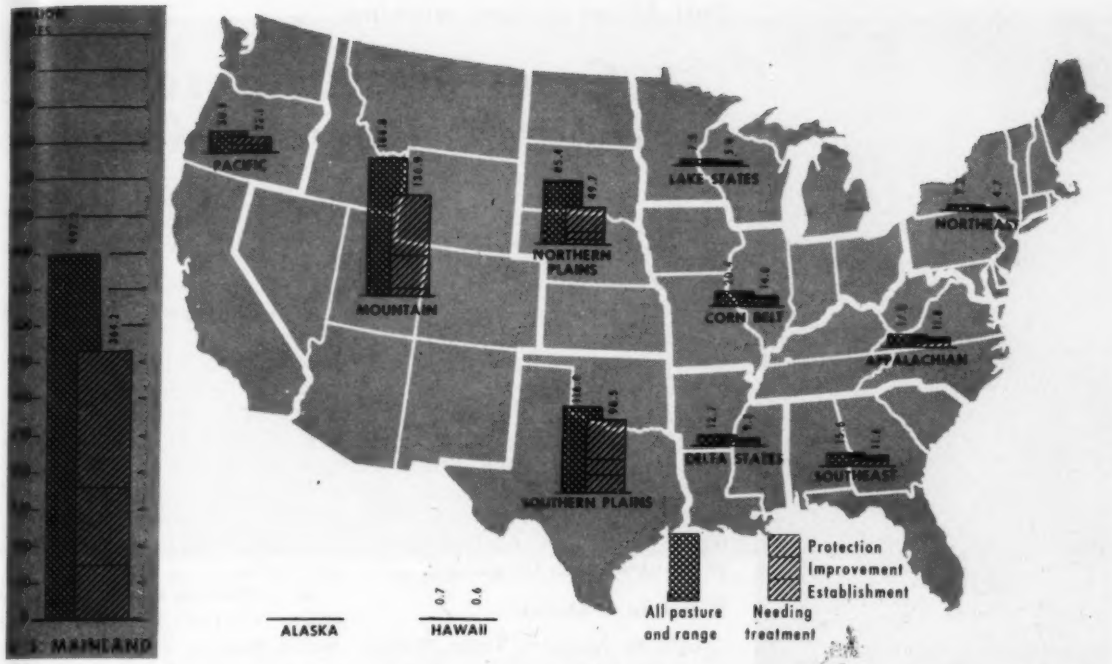
LAND CAPABILITY BY REGIONS (left). Land capability classes are grouped to show land suitable for regular cultivation, for limited cultivation, and generally not suitable for cultivation in each farm production region.



DOMINANT CONSERVATION PROBLEMS (above). Dominant problems are identified by the hazards that determine land capability subclass for all non-Federal rural land covered by the Inventory. Class I land, with no problem, amounts to 3 percent.

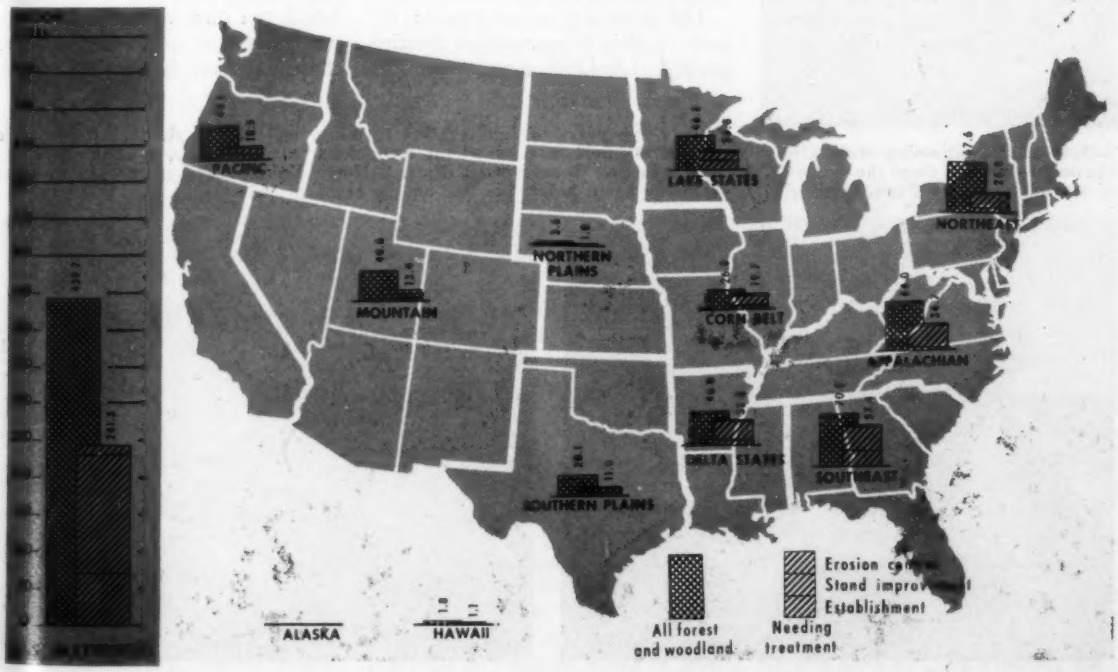
CROPLAND NEEDING TREATMENT (below). Of the 436.2 million acres expected to be in cropland in 1975, 93 percent has some soil conservation problem needing attention, and 62 percent is inadequately treated.





PASTURE AND RANGE NEEDING TREATMENT (above). Of 497.2 million acres of non-Federal land expected to be in pasture and range in 1975, a total of 73 percent needs conservation treatment.

WOODLAND NEEDING TREATMENT (below). Of 440 million acres of non-Federal land expected to be in forest and woodland in 1975, a total of 55 percent needs conservation treatment.



Dust blows a new warning . . .

Great Plains Conservation Meets a Regional Problem

By Norman A. Berg
Assistant to the Administrator

Soil from the adjoining field fills the borrow pit and clogs the culvert of a road near Cut Bank, Mont.

IN THE southern Great Plains again there has been drought and dust—an old story, we have said, with only a few variations in the new script.

The days of blowing dust, with reported land damage up 50 percent from the average of recent years, have set off new and persistent alarms with growing public conjecture as to whether another dust bowl is in the making.

Worst in a Decade

Late in January, Texas experienced the worst storm in a decade, with winds up to 75 miles an hour. Main highways were closed for hours as blowing dust blocked visibility, and automobile accidents were frequent.

The February wind erosion report of Soil Conservation Service showed 1,864,880 acres damaged in Texas, a tenfold increase over the 157,670 acres in that State affected at the same date in the previous blow season.

In the 10 Great Plains States as of February 28, wind erosion had damaged 3,142,601 acres, compared to 2,097,437 a year earlier.

The burden of fine dust carried eastward in the atmosphere brought new concern to the people of eastern cities.

In Cincinnati, Ohio, the Air Pollution Control Department estimated that on the 26th of January 140 tons of red dust settled on that city and as much as 1,800 tons on the four-county metropolitan area.

At Robert A. Taft Sanitary Engineering Center there scientists found the dust contaminated with pesticides and other agricultural chemicals that had been used on

Twenty-five years of conservation farming, including a shelterbelt along the edge of the field, has stilled the dust along this stretch of road in the Turtle Mountain Soil Conservation District, North Dakota. The pictures were taken from the same point, the one on the right in 1936.

Headlights were a necessary warning to oncoming motorists at 3:30 p.m. on U.S. Highway 83 near Colby, Kans., during a duststorm in 1956.

the farms where it originated.

Although the amount of chemicals was not enough to be regarded as a health hazard, newspaper reports about them reflected new concern over the menace of wind erosion. The New York *Times* on March 7 editorialized:

A New Menace

"The loss of this precious topsoil is tragic enough. But the widespread use of pesticides in recent years makes the recent duststorms even more sinister than those of the 1930's."

The public concern recalls the days, now three decades ago, when an aroused Congress, beholding in the Great Plains a vast area of crop failure, blowing land, and human hardship, set in motion a national program of soil conservation.

The Soil Conservation Service was mobilized and soil conservation districts were formed to lend State and local impetus and judgment to the solving of erosion problems.

The prolonged drought that began in the 1950's was worse than that of the 1930's, almost everyone agreed, in extent, duration, and intensity—worse in every way except in effect.

Conservation Protects

Farmer know-how, newly developed techniques, better equipment and more of it, plus sounder financing and more effective help from Federal and State sources served to reduce hardship and keep the area's economy going. Individual land owners and operators who were well along with the establishment of soil and water conservation systems on their holdings suffered little damage from the windstorms.

Out of the experience gathered in this and foregoing droughts had come the principles of the Great Plains Conservation Program, combining a complete farm or ranch plan with a cost-sharing contract between each landowner and the Secretary of Agriculture.

As of now, nearly 18,000 land owners and operators have made use of the program and have developed complete conservation plans on more than 38 million acres of crop and range land.

Of the 6½ million acres of cropland involved, 1½ million acres has been seeded, or will be, to permanent vegetation—mainly grass. This accounts in 8 years for slightly more than a tenth of the 12 million acres of cropland identified as unsuited to cultivation in the 422-county area designated for the Great Plains Program — substantial progress, indeed, but far short of completing the needed land use adjustment within the authorized 15-year duration of the program.

Job Still To Be Done

In the larger area of the 10 Great Plains States, the Conservation Needs Inventory showed that nearly 14 million acres of class V to VIII land, physically unsuitable for cultivation, was being used as cropland in 1958. In addition, 22 million acres of borderline class IV land was in hazardous cultivation. Effective control of erosion will not be in sight until all the class V to VIII and much, if not most, of the class IV land is in permanent vegetation.

The Inventory showed, too, that 63 percent of the land likely to remain in cropland to 1975 — including soils of class I to III cap-

Grass is the basis of soil and water conservation in the Great Plains, SCS Conservationist Roy Houser explains to Bonnie Runck and her two daughters in an area of former cropland reseeded to grass in the Little Beaver Soil Conservation District, Montana.

able of being safely cultivated with good practices — was inadequately protected for soil and moisture conservation. As in retirement of unsafe cropland to grass, progress is being made in the conservation treatment of the land remaining in cultivation, but the job is far from complete.

Erosion is the dominant problem on 65 percent or 115 million acres of the 178 million acres of cropland still needing treatment in the 10 States.

On the 313 million acres to be in range and pasture by 1975, 240 million acres or 77 percent needs conservation treatment by establishment, improvement, or protection of cover.

Great Plains Program

A principal objective of the Great Plains Conservation Program as a new tool for SCS in its help to soil conservation districts has been greater speed in conservation. As a pilot program, it was given an authorization of $150,000,000 in a period of 15 years with contract writing to end in 1971. Appropriations started at $10,000,000 a year and have been increased to $14,864,000 for 1964.

Landowners also make an impressive contribution of their own resources. An analysis of the $5,000,000 used in cost-sharing in Nebraska showed that the Federal Government has invested an average of $1,975 in assisting 2,500 landowners. SCS technical assistance was figured at an average cost of $676. The average landowner's share had been $1,241, and his loss of income, such as he incurs in changing from cropland to pasture, added $1,390 to make a total of $2,631.

So, the landowner's stake about matches that of the United States. For this, we can expect a genuine awareness on his part of the value of conservation and of the need for keeping at it.

Next to establishing permanent vegetation on retired cropland and depleted rangeland, the most widespread practice applied with Great Plains cost-sharing assistance has been the control of brush on more than 2 million acres of range and pasture.

Livestock water developments (more than 5,000), windbreak plantings (13,000 miles), terracing (21,000 miles), sod waterways (11,000 acres), fencing for conservation management of range and pasture (4,000 miles), and the various practices for irrigation improvement — all are important in the Great Plains Conservation Program. These and the other conservation practices are helping to make the Great Plains stable physically and economically.

These are reasons why, although the dust clouds rise high and travel far on the winter and spring winds, we likely will never have another dust bowl such as that of the 1930's. A start has been made—already enough to make a difference—and it has demonstrated that good farming and ranching of the conservation type furnishes cover for vulnerable land that otherwise would give up soil to the winds that are sure to come in season.

We are making progress, and the most important progress is in the attitude of landowners who are thoroughly informed as to the capabilities of their land and plant resources and have determined to use and treat them within those capabilities. ♦

Grassland Field Day Features Forage Crops

The Second National Grassland Field Day and Conference at Columbia, Tenn., June 23 to 25, will feature the results of experimental work on forage production at the Middle Tennessee Agricultural Experiment Station.

Commercial exhibits will display the latest equipment for grassland farming. The affair is sponsored by the University of Tennessee and American Grassland Council.

Security on Johnson Creek

Rural community tames the waters and revives its economy through teamwork

A RURAL community in Madison County, Tenn., is rapidly pulling itself out of the category of a depressed area.

D. F. Luckey, area conservationist of the Soil Conservation Service at Jackson, tells how it has all come about since people there got together to promote the Johnson Creek Watershed Project in the mid-fifties.

At that time 125 of the 229 farms in the 22,610-acre project were owned and operated by Negroes. Their average net income was $519 a year from farms averaging 96 acres in size.

Farming on the steep loess soil on the hillsides was precarious, but they could not use the bottom lands because of frequent floods and standing water. More than 1,000 acres of active gullies poured sand into stream channels and onto fertile bottom land.

As part of the watershed program, several group enterprises were undertaken to improve the standard of living of the cooperating Negro families.

A Source of Seed

One was a seed patch program. Watershed farmers pooled their farm equipment and resources to buy vetch and oats to establish a patch large enough to get a custom combine to come in and harvest seed. The seed was divided among participants and used as winter cover on their individual crop fields.

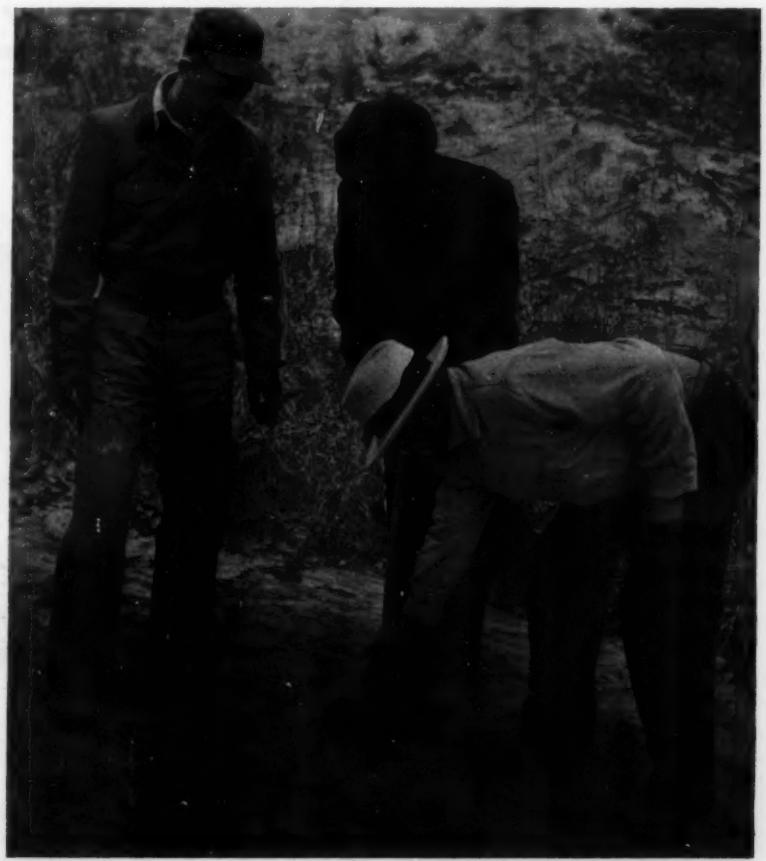
Another was a tree-planting program. The Madison County Soil Conservation District, a joint sponsor of the Johnson Creek Watershed Project, conducted an educational program to get these farmers to sign up for the tree-planting practice under the Agricultural Conservation Program.

The Soil Conservation District Board of Supervisors then borrowed money, interest-free, from the local Production Credit Association to buy pine seedlings which they furnished the farmers.

As soon as the trees were set, the district board paid the participating farmers the remainder of the ACP payment. They were later reimbursed by assignment of these ACP payments.

This program was quite successful. In the first year 150,000 pine seedlings were planted, the second year 300,000.

Besides providing the cooperating farmers money in the winter when they needed it, this program (1) taught the farmers how to participate in the Agricultural Conservation Program, (2) created a desire to treat their gullied areas, and (3) obtained their cooperation in fire prevention.



Billy F. Headden (l.), SCS soil conservationist, helps J. L. Williamson and Robert Monroe in a pine tree planting demonstration early in the Johnson Creek Watershed Project.

A decade ago small rains overloaded the clogged channel of Johnson Creek and sent floodwaters and sediment spreading over the bottom land.

Conservation Plans

But the road to stability was long and hard, and often discouraging, Conservationist Luckey recalls. To begin with, SCS personnel helped the landowners develop conservation plans. By 1960, 201 of the 229 farms, including almost all of the Negro farms, were cooperating with the Madison District. They had planted 2,000 acres of trees, mostly on the gullied lands, and were doing other conservation work. Three of the five flood-detention dams were complete and work was to start on another.

Then the cooperators began to see results. Floods were stopped on many areas of bottom land, and farmers began to move their crops from the hillsides. SCS laid out drainage ditches to move standing water from the fields. The Extension Service, the Tennessee Agricultural and Industrial State University, and Tennessee Valley Authority initiated a program to show the Negro farmers how to use fertilizer to build yields on their newly protected fields. The SCS technicians helped them install protective conservation measures on all their land.

Hunting Area Shared

Another joint endeavor which is of lasting benefit to the whole community was the creation of a recreation and hunting area.

The leading Negro businessmen and farmers incorporated and bought 150 acres. They gave the watershed district a free easement to build a floodwater-retarding

Local labor was used in the watershed project to plant pine trees on more than 1,500 acres of massive gullies like these.

The first Board of Directors of the Johnson Creek Watershed District saw the project approved in 1956 and guided it through the planning and early construction stages. They were (l. to r.) James S. Lawrence, secretary-treasurer and contracting officer; Mrs. Robert Booker, secretary; Fred T. Smith, president; J. L. Collins; B. L. Gilmore; and Crawford Long, vice-president.

structure. They now have a 45-acre lake that is available to the public on a fee basis for fishing, boating, and picnicking.

The Sportsman's Club also got the cooperation of neighboring farmers in planting lespedeza bicolor and other food and cover patches for quail and rabbits. The State Game and Fish Commission cooperated by furnishing planting materials and stocking the area of more than 3,000 acres. After a closed season to allow the game to multiply, the area was opened to the public, without regard to race, for hunting on a fee basis at $1.25 a day.

The watershed program is now complete. Five flood control structures and 5 miles of channel improvement have virtually eliminated flooding. A 1,650-acre pine forest now exists where formerly there were only gullies. Raw roadbanks have now been covered with bermudagrass.

A feeling of fraternity and accomplishment exists among the people of the watershed. Incomes are on the rise. Many new homes flank the improved roads. Hunting, fishing, and recreational facilities are available to all.

This is now a safer, more beautiful place to live than when the watershed program was started in 1955. ♦

Soil Conservationist Frank Richardson checks 8-year-old loblolly pines set under contract in the watershed project.

The new Recreation-Conservation Sticker is now available and sells for $7. The 1965 sticker is valid from April 1 through March 31, 1966.

It admits its holder and all occupants of his noncommercial auto to national parks, wildlife refuges, national forests, and other Federal recreation areas that charge an admission fee, and covers an unlimited number of visits.

Tickets are sold at all Federal areas subject to entrance fees, and in many cities at offices of the Forest Service and the National Park Service, among others. ♦

Pampered Stream Responds With Beauty and Utility

WHEN and if a drop of water ever leaves the Bernbet farm it has all the wetness worn out of it.

Bernbet is owned by Bernard and Betty Biedenharn near Monroe, La., in the D'Arbonne Soil and Water Conservation District. The Biedenharns have been district cooperators for the past 15 years on their 816-acre farm.

Rocky Ford Branch rises out of the ground on Bernbet and is the source of a water supply — and story.

To begin with, the Biedenharns have pampered Rocky Ford Branch and they admit it. They have cleaned out debris that might impede free flow, cleared away undergrowth from the banks, and placed picnic tables along the way. Concrete ramps cross the stream where roads or trails must ford it.

Water for the home is pumped directly from the branch. Every time Mr. Biedenharn has it checked, the laboratory gives it a clean bill. Since he controls the entire watershed, he can keep it that way.

The Biedenharns can push a button, and the sprinkler system in the yard goes to work. Pipes and sprinkler heads are permanent.

Excess water from the house and from the swimming pool in the yard goes back into Rocky Ford Branch downstream. A 22-acre farm pond catches it. The pond has been stocked with fish and is properly managed. Two boathouses, complete with running water, lights, picnic tables, soft drink boxes, and comfortable chairs make fishing almost too easy.

At the upper end of the pond he has installed an electric turbine pump which will deliver 2,000 gallons of water a minute, and this puts water into his irrigation system. Conservationists of the Soil Conservation Service, assisting the D'Arbonne District, helped design and lay out levees, control structures, roadways, and canals to get water to the fields. Each field is fenced with multiflora rose so that birds and animals can find shelter and food.

Rocky Ford Branch is a pampered stream throughout its course on Bernbet Farm. Here concrete ramps make an easy ford for one of the farm roads.

Sprinkler irrigation for the home grounds is only one of the ways the stream serves the proprietor of this conservation farm.

Years ago Rocky Ford Branch would go on a rampage during heavy rains. But no more; it doesn't have time. Too busy serving the needs of man and beast, and too much under the fingertip control of a conservationist with a flair for the unusual.—JOHN CROSS AND JIMMIE WYCHE, *Assistant State Soil Conservationist and Area Engineer, SCS, Alexandria and Tallulah, La.* ♦

Sportsman Makes Wildlife Haven Of His South Dakota Farm

Robert O. Koerner
Work Unit Conservationist, SCS, Onida, S. Dak.

ON the R. Guy Goddard farm near Onida, S. Dak., wild ducks and geese stay year-round.

The visitor may glimpse a whitetail deer darting into the woods. He may catch sight of a wild turkey or grouse, or spot a golden eagle or great horned owl on patrol.

There are fat bass in the pond. Mink and other kinds of wildlife live nearby.

This is the Goddard farm as its owner has planned it with help from the Soil Conservation Service and the Sully County Soil and Water Conservation District.

As He Planned It

To him the wild animals and the birds are as important as the successful operation of the farming business. The planting of trees and shrubs, grasses, and other crops, the development of water—all these have been planned and carried on with the well-being of wild things in mind.

Mr. Goddard came by this appreciation of the outdoors naturally. His late father, R. S. Goddard, was widely known as an outdoorsman and soil conservationist.

As a State Representative, the elder Goddard in 1937 helped to put through the legislation that led to the organization of soil conservation districts in South Dakota. The Goddard farm is an example of soil, water, plant, and wildlife conservation closely coordinated for the protection and continuing use of all these resources.

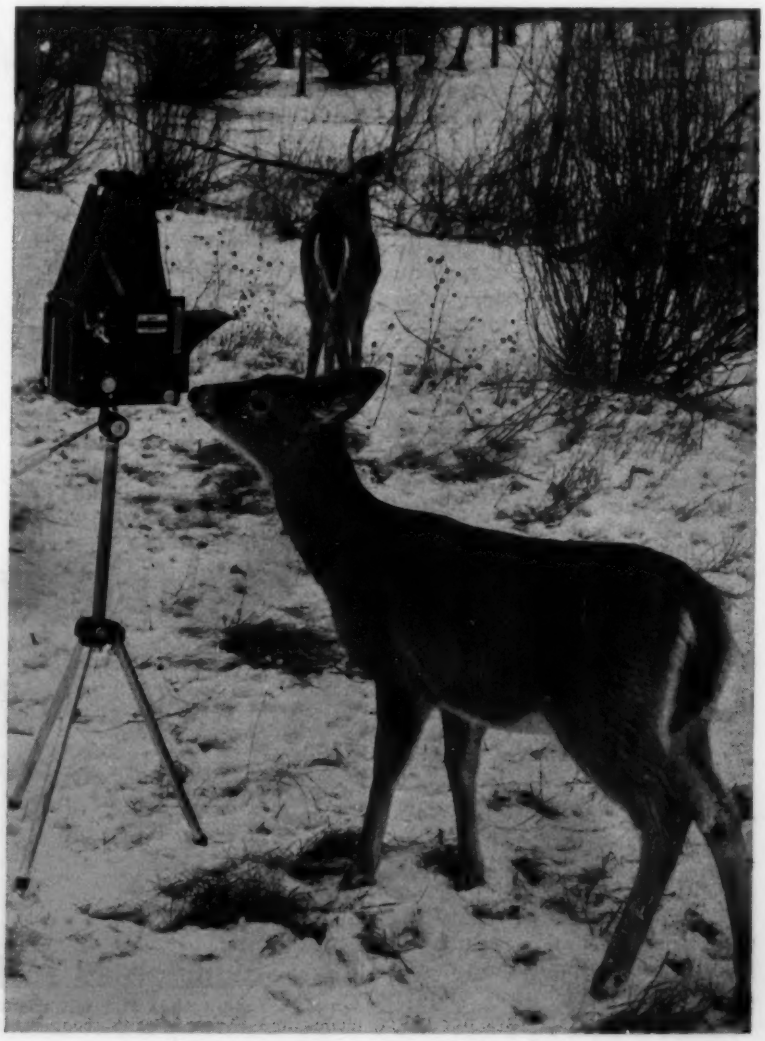
In his growing years, Guy Goddard spent many hours with his father tramping the woods, hunting, fishing, and trapping. The two Goddard sons, Steve and Truman, are treading the same path, eagerly sharing their father's interest in wildlife conservation.

Wildlife

Many whitetail deer visit the farm from time to time to use the food patches and pond.

Guy Goddard also has a fast-growing flock of Merriam wild turkeys. About a year ago, he purchased 4 of the birds. Now there are about 30, indicating they thrive on the Goddard farm.

There are always eagles and great horned owls around. These



The deer on the Goddard farm feel at home in the wildlife plantings of shrubs and trees. It's the strange black box that is the intruder!

birds normally feed on rodents, and Mr. Goddard is not concerned about the occasional injured bird they may take.

The Goddards had a great horned owl for a pet a while back. It was near a farm building, unable to fly because of a broken wing. The Goddards nursed it, feeding it mostly field mice and rabbits. The bird was wary of the charity, however. It would not touch food while anyone was watching.

A dual purpose pond in one of the pastures attracts many kinds of wildlife. The pond covers 15 acres and is 10 to 12 feet deep. It has become a favorite swimming hole for people in the area. Families often come there for a picnic, and to swim and fish.

Ducks and geese use the pond during migration in the fall and spring. Ducks nest in the uncut grass border around the edge.

The first bass were stocked here in 1953, when the Goddards brought back 31 small bass about 7 inches long from a fishing trip.

The pond is fenced to exclude livestock. Plantings of red cedar and ponderosa pine were made on the contour around the water's edge in 1961, and more in 1962.

A local camera club has made visits to the farm to capture the animals in pictures. Guy Goddard also welcomes individuals and families to his farm who have the same interest in nature that he has. When the trees are big enough, these areas will be ideal for family outings and recreation.

Underplantings of cedar have been made in all of the tree plantings. Trees and shrubs, such as plum, chokeberry, and Russian olive, which are preferred by wildlife, are planted for windbreaks and shelterbelts. To date, more than 20 acres of trees and shrubs have been planted on the farm.

Many birds, such as robins and meadowlarks that normally go south for the winter, stay in the developed wildlife areas on the Goddard farm. Here they are protected from weather and can get grain from the feedlots.

Mr. Goddard was elected president of the Sully County Sportsmen's Club last year. Long active in community affairs, he is also a leading advocate of wildlife conservation. ♦

Soil Display Boards Aid "Know Your Soil" Campaign

A "Know Your Soil" campaign conducted by supervisors of the Greene County, Ala., Soil Conservation District is attracting wide interest in the county.

Displays of soil profile samples are focal points of the campaign. Display boards are located in the offices of two banks in Eutaw.

Glass vials are mounted on pegboards placed on either side of a county map. Each vial holds soil taken from one of the farms in the county. The soil samples are being collected by SCS soil scientists in gathering information for county soil survey. Fieldwork for the survey is to be completed in 1965.

A tab by each vial tells the position of the sample in the soil profile, its color and texture. A card on each pegboard gives the name, location, description, potential uses, limitations, hazards, and conservation treatments needed for each soil. A colored string extends from the pegboard to a spot on the county map where profile samples were taken. The name of the farm is attached to the string.

Bank President E. W. Hood of Merchants and Farmers Bank attributes the continuing interest in the displays to the rotation of the profile samples. "People first find the pins on the map to see if one is in their community, and they know the farm where the samples were taken. Then they study the samples and read the cards carefully."

"Our cooperators, and others, too, have been interested in looking deep into the land," says R. I. Hitt, chairman of the Greene County Soil District. "They are learning the names of our principal soils, why each is suited to—or limited to — certain crops, and why it may require special conservation treatments because of its physical makeup." — LUTHER E. GOWDER AND JAMES A. COTTON, *Work Unit Conservationist and Soil Scientist, SCS, Evergreen and Eutaw, Ala.* ♦

James A. Cotton (l.), SCS soil scientist, and E. W. Hoot, president of Merchants and Farmers Bank, cooperated in the campaign.

Taming Wild Wells in Florida

District campaign to cap artesian wells halts waste of vital ground water

By Donald E. Vandergrift
Work Unit Conservationist, SCS, Lake Worth, Fla.

FOR YEARS free-flowing artesian wells have been wasting Florida's underground water reserve that supplies nearly 90 percent of the State's cities and much of its industry and agriculture, despite a 1953 act of the legislature making such uncontrolled flow unlawful.

The Lee Soil Conservation District, by enlisting the cooperation of landowners and public officials, is putting the brakes on such wastage in its territory.

The supervisors were concerned not only about the disappearance of a vital natural resource but also about the encroachment of salt water into fresh water fields as underground pressure declined.

Here's how it came about:

How They Got Started

In April 1964, Chairman Perry A. Nott told his fellow supervisors that the district should take immediate action to halt water waste from uncontrolled artesian wells. Supervisors Charles Wainwright, Andy Nychyk, and Gerald Moody were asked to study the problem and report at the next board meeting.

The committee found that the State Legislature had passed an act in 1953 making it unlawful for artesian wells to flow without control. But little had been done to enforce the law, largely because of a lack of enforcement personnel.

The board then wrote the Division of Water Resources and Conservation, Florida Board of Conservation, about the problem and asked whether the division could provide any assistance.

John W. Wakefield, then division director, assigned H. J. Woodard, division geologist, to assist the district.

At a special meeting of the Board of Supervisors, Mr. Woodard explained the necessary procedures for controlling wells, reviewed the legislation pertaining to the problem, and instructed in the techniques for plugging wells. He indicated that the division would give whatever assistance was necessary in carrying out the well program.

Mr. Woodard estimated that there are approximately 1,000 artesian wells in Lee County, half of them flowing uncontrolled. The uncontrolled flow was estimated at 300,000 gallons of water a day, enough to supply the City of Ft. Myers for 77 days.

With these facts at hand, the district supervisors went to work. They contacted the local TV and radio stations and newspapers to inform them about the problem and the district's efforts.

News Media Help, Too

The newspapers gave wholehearted support with articles, editorials, and pictures. TV and radio stations used 1-minute and 30-second spot announcements and interviewed district supervisors on the air.

Residents are asked to report uncontrolled artesian wells to the

Before the Lee Soil Conservation District got busy on the problem, 500 uncontrolled wells like this one were wasting 300,000 gallons of water every day in Lee County.

district. The district secretary writes the landowner requesting cooperation by plugging or controlling the well. A copy of the law is attached. A copy of the letter to the landowner is sent to Mr. Woodard's office registering the uncontrolled well with the State Board of Conservation. When 8 or 10 letters reach Mr. Woodard's office a trip is scheduled to Lee County to check the wells. Usually he finds that 80 percent of the reported wells already have been brought under control.

The Lee District has received many plaudits on its successful program to curtail water waste, including letters from landowners who have controlled wild wells.

SCD Program Commended

Charles Flint, president of Lee County Cattlemen's Association, said; "Water conservation is of vital importance to the cattleman. The cattlemen of Lee County are very appreciative of the efforts of the district supervisors in trying to curb the waste of water . . . . This is a very important step toward the conservation of our water supply."

Water waste is being reduced by installation of valves such as this one being checked by Perry A. Nott, Lee SCD board chairman.

Julian Hudson, chairman of the Lee County Board of Commissioners, stated that "bringing these wild artesian wells under control is way past due."

L. A. Jacobsen, SCS area conservationist at Sebring, terms this program as one of the four outstanding conservation accomplishments in south Florida since 1960.

Other conservation districts in Florida are planning similar programs. ♦

Arkansas Broadens District Powers

THE FIRST State to enact a soil conservation districts law is again in the lead in modernizing its districts' functions to deal with a wide range of resource problems.

The Arkansas legislature has just amended its enabling act to broaden the purposes of districts and give them necessary powers to sponsor and finance structural measures and other features of conservation projects.

The 1965 amendment extends the purposes and powers of districts to include "the control and prevention of soil erosion, and for the prevention of floodwater and sediment damages, and for furthering the conservation, development, and utilization of soil and water resources and the disposal of water." The original act provided only for "the conservation of the soil and soil resources of the State, and for the control and prevention of soil erosion."

The amendment also authorizes a soil and water conservation district to plan, carry out, operate, and maintain developments in "improvement project areas," such as small watersheds under Public Law 566, without the necessity of forming additional local governmental units.

The districts now have the authority to use the right of eminent domain in acquiring the necessary rights-of-way, and of taxation, selling bonds, and borrowing money to finance local project expenditures.

This permits soil and water conservation districts, as well as watershed improvement districts or subdistricts of drainage districts, to sponsor watershed projects and execute construction contracts.

Soil conservation leaders in Arkansas believe the strengthened role of conservation districts will facilitate the application of land treatment and structural measures in the proper sequence and will insure effective maintenance. ♦

4-H Club Wins State Conservation Awards

Resource pooling 9 years ago created New Jersey's first 4-H Soil, Water, and Wildlife Conservation Club. Now thriving, the club has much to show for its conservation work.

At the start James Rice, 4-H Club agent, and Harry R. Slayback, Soil Conservation Service, provided the impetus. Slayback developed a conservation plan for the club. Mercer County Soil Conservation District Supervisors set up a system of awards for outstanding conservation achievements. Phil Alampi, State Secretary of Agriculture, gave the club the use of his 142-acre farm and equipment.

Guided by Jack Klein, 4-H Club leader, and David Tindall, SCS technician, members have planted more than 11 acres of wildlife food patches in contour strips. They have also planted trees and shrubs for wildlife and built and placed wood duck boxes in trees. Twice a year they count the increasing game on the entire farm. Other conservation work is being carried out.

Two members, Donald Fenton and Charles Appelget, have won State 4-H Club awards. ♦

Icelandic State Park Makes Good Use of Watershed Lake

IN North Dakota's northeastern corner, Icelandic State Park — near enough to the border to beckon the Canadian neighbors — has become a recreation mecca for increasing thousands of visitors each year.

The park's center of attraction is Renwick Dam and Reservoir—a part of the Tongue River Pilot Watershed Project. The lake last summer offered swimming, water skiing, boating, and fishing. Now fitted with boat docks and several areas for picnicking, a swimming beach for the lake is scheduled for next summer.

Skirting the reservoir is Cavalier's municipal golf course with an arm of the lake providing a water hazard for the 9th hole.

In addition to recreation, the dam provides flood protection and stores municipal water for nearby Cavalier.

Several organizations contributed to the project: The Pembina County Water Management District, the North Dakota Game and Fish Department, and the City of Cavalier paid the local costs for building the dam. The Soil Conservation Service provided the Federal funds and technical help.

To create the park, the water management district first transferred to the State 500 acres adjacent to the reservoir. Then G. R. Gunlogson, a descendant of a pioneer family in the area and now an industrialist in Racine, Wis., donated 200 acres. These 200 acres will be developed as an arboretum.

The park is a memorial to pioneers, many from Iceland, who peopled the area in its settlement days. There is talk of a pageant, depicting the history of the area and recognizing the Icelandic culture, to be presented in the park next season.

And as Mr. Gunlogson phrased it at the dedication last summer: "Leisure is coming faster than people are able to use it. The business of recreation is the biggest in the country."—ARTHUR H. CRATTY, *Assistant State Conservationist, SCS, Bismarck, N. Dak.* ♦

Renwick Dam and its lake have become a popular recreation center. It represents the varied uses of resources in upstream watersheds. The stream fed by the outflow is a favorite spot for anglers.

J. Irwin Davis

Georgia

He Showed Them How

"WHO COULD forget Jeff! When he showed us how to use that power equipment on the farm in Dooley County (Ga.) and talked to us, he made it look and sound so easy, we just had to try it . . . . and you know he was right . . . . and I'll never forget that joke he told."

That's the kind of answer you get when you ask almost any farmer, farm contractor, or farm equipment dealer in the Southeast if he knows Jeff Davis of Albany, Ga.

For more than a half century J. Irwin Davis has made major contributions to the advancement of agriculture — and especially to soil and water conservation—in the South. After receiving a B.S. degree in agriculture from the University of Georgia in 1914, he worked as county agent in Brooks, Decatur, and Dougherty counties. In April 1929, he began a career with the Caterpillar Tractor Company of Peoria, Ill., that lasted until 1958 when he reached retirement age.

Outstanding Service

In 1958, the Georgia Association of Soil Conservation District Supervisors awarded Jeff Davis a plaque for "outstanding service in promoting the Soil Conservation District Program."

Although promoted and honored by his company and offered higher positions elsewhere, he never left his home at Albany.

Jeff Davis was a leader in developing the terracing program in the middle 1930's and in promoting woodland conservation in Georgia, Florida, and south Alabama.

In 1946, his company assigned him to the development of special equipment for land clearing for pasture and reforestration. He worked closely with colleges and experiment stations to learn the need for special tools and with auxiliary manufacturers to get them made.

Watershed Construction

Beginning in 1954 he cooperated closely with the Soil Conservation Service and soil conservation districts in promoting the small watershed program. He aided construction work by arranging and conducting demonstrations of the use of heavy equipment for clearing reservoir sites. He helped contractors see their opportunities in watershed construction work and maintained for their information a file of the status of projects in his territory.

From 1955 through 1958 Mr. Davis worked with the Southern Piedmont Soil and Water Conservation Experiment Station at Watkinsville, Ga., and the SCS in developing methods of building parallel terraces with heavy equipment. He and L. D. Worley, SCS State conservation engineer in Georgia, worked out many of the problems together on cooperators' farms.

In mid-1956 Mr. Davis and John Carreker, then superintendent of the experiment station, did exploratory research on combining the principles of landforming with terrace construction on rolling land. These tests were followed by further work on a field near Monroe, Ga., made available by Deere

J. Irwin (Jeff) Davis sees his face reflected from a plaque presented by the Georgia Association of Soil Conservation District Supervisors.

In 1934, Jeff Davis (r.) and Fletcher Farrington, then county agent of Tallapoosa County, Ala., stood on a broad-base terrace in one of the first fields terraced in the county.

Acres, a test farm of the John Deere Plow Company.

Mr. Davis said that in developing the idea of parallel terracing with the tractor-scraper, "we decided to forget the old spacing criteria and figure on a terrace interval which would work with four-row planting and cultivating equipment and with six-row dusters and sprayers. . ."

Parallel Terraces

In February 1957, Jeff Davis helped to demonstrate this method of parallel terracing on the farm of Ralph Burton in Dooly County, Ga., near Vienna. The demonstration was sponsored by the Ocmulgee Soil and Water Conservation District in cooperation with the SCS. The Caterpillar dealer for south Georgia provided the equipment. Soon afterward, Mr. Davis helped put on a parallel terracing and landforming demonstration sponsored by the Richland County District near Columbia, S.C.

Many similar demonstrations followed in the Southeast. More than 60 have been held in Georgia. In Dooly County alone, 287 miles of parallel terraces and 104 acres of grassed waterways, not including hay land, have been established.

After Mr. Davis retired from the Caterpillar Company he could not "stay out of harness" more than a few days. He went to work with the Rome Plow Company of Cedartown, Ga., as consultant and later as manager of sales promotion. He was active in developing new methods in reforestration and the use of heavy equipment in agriculture and forestry.

Finally, in February 1963, at age 70, Jeff Davis fully retired. However, he is still subject to call by the plow company for consultation or assistance on specific problems.

In June 1964, Mr. Davis and his wife, the former Lois Fleming of Athens, celebrated their golden wedding anniversary. They have three sons and six grandchildren. ♦

Water Spreading Gives Rancher Use of Rainfall

(Picture on back page)

"WE HAVE to be prepared to make the best use of water when it comes!"

This is the view of Lonnie Adams who ranches near Roy, Mont., in the Fergus County Soil Conservation District. He is one of the central Montana ranchers who are developing about 2,000 acres annually of floodwater spreading systems with the help of the Soil Conservation Service and the Great Plains Conservation Program.

Mr. Adams completed a dike system last year on about 185 acres on Big Bear Creek and released water in late August from a storage dam to flood the area. After the dikes were completed they were seeded to native western wheatgrass. The flooding helped get the grass growing and a good cover was established in the fall on the disturbed areas.

Mr. Adams had the water-spreading development in mind when he bought the 11,000-acre ranch a few years ago. He also manages the 60,000-acre L. L. Armour ranch near Forsyth where flood irrigation systems have been developed on more than 600 acres of bottom land.

The flooded areas at the Forsyth ranch have come back to western wheatgrass, replacing the big sagebrush and greasewood naturally present. The grass is used primarily as hay for winter feed.

After buying the ranch near Roy, Lonnie Adams, with the help of SCS Conservationist Pete Haverkamp, planned to develop about 1,040 acres of water spreading on Box Elder Creek and Big Bear Creek flood plains. They also planned a deep artesian well and stock-water dams to provide water for better livestock distribution on the ranch.

The 1,040 acres to be flood irrigated will depend on spring runoff and heavy summer storms. The drainage area above the development is large enough to flood the area about 4 out of every 5 years, according to the SCS conservationists assisting with the plans. The Adams ranch has the added insurance of large reservoirs that can store water for part of the system for periods of poor rainfall. — CLAYTON OGLE, *Area Conservationist, SCS, Lewistown, Mont.* ♦

Soil Surveys

A soil survey serves a great many other purposes besides those required by agriculture. Soil surveys are also used by engineers, urban planners, land appraisers, and others. In recent years the engineering interpretation has become especially important to State highway departments and others. ♦

Forage Plant Physiology and Soil-Range Relationships. *1964. American Society of Agronomy, ASA Spec. Pub. 5. Madison, Wis. 250 pp., illus. $2.50.*

Papers of two symposia sponsored by the Crop Science Society of America, the Soil Science Society of America, and the American Society of Range Management presented November 17-21, 1963, at Denver, Colo., are included in this publication.

Principles of plant growth and response to environmental factors are discussed by authorities from several fields of research and experience.

Perhaps no type of information is more important to sound conservation than that presented in this one volume. Soil scientists, range conservationists, agronomists, and all conservationists should become familiar with it.

Of special significance to the developing concepts of soil and range site classification are papers by SCS men Andrew R. Aandahl and Arnold Heerwagen on survey concepts; H. B. Passey, W. K. Hugie, and E. W. Williams on an example of pristine range and another on herbage production; Gerald L. Richard and George V. Davis on High Plains range; and Richard R. Covell and William A. Cole on Coastal Plain range.—R. E. WILLIAMS, *Resource Development Division.*

New Publications

World Population and Food Supplies, 1980. *1965. American Society of Agronomy. Madison, Wis. ASA Spec. Pub. 6. 50 pp. Single copies free.* A symposium presented at the 1964 meeting of ASA. The following paragraph from the foreword by L. A. Richards, ASA president, summarizes the contents: "The authors of the four papers in this publication give authoritative information of food and population for the next 15 years, during which period it appears that the world's per capita food supply will be reasonably adequate, if satisfactory distribution can be accomplished. But, already, food exporting nations are developing resistance t food shipments on a subsidized basis. Unless birth rates decrease within the relatively near future, food requirements will exceed the most optimistic estimates of production capacity and population will be stabilized by increased death rates arising from natural causes that are historically known."

Reestablishment and Use of Grass in the Morton County, Kansas, Land Utilization Project. BY C. M. SCHUMACHER AND M. D. ATKINS. *1965. USDA SCS-TP-146. 16 pp., illus.* This technical paper reports the results of land stabilization and grass reestablishment, management, and use in the project. Work was undertaken when wind erosion was a critical problem and no seed and little information were available on how to reestablish grass.

The results demonstrate that (1) cropland and denuded rangeland can be successfully reestablished in native range grasses, (2) forage sorghum or broomcorn is the most effective crop in initial stabilization, (3) a specially designed grass drill is the best tool to use, and (4) only seed of local origin or proved adaptation to the locality and site can perform well in permanent rangeland seeding.

An Economic Survey of the Appalachian Region, With Special Reference to Agriculture. BY R. I. COLTRANE AND E. L. BAUM. *1965. USDA Agr. Econ. Rpt. 69. 78 pp.* A report, supported by 70 tables, on the agricultural problems and opportunities, with special emphasis on the employment trends, in 322 counties in Pennsylvania, Maryland, West Virginia, Kentucky, Virginia, Tennessee, North Carolina, Georgia, and Alabama.

How the United States Improved its Agriculture. BY RAYMOND P. CHRISTENSEN, WILLIAM E. HENDRIX, AND ROBERT D. STEVENS. *1964. USDA Econ. Res. Serv., ERS Foreign-76. 32 pp.* Text and charts analyze the factors contributing to the amazing increase in U.S. agricultural productivity in the past century. Although conservation technology as such is obscured by the economic viewpoint of the analysis, the report contains much information of interest to people concerned with resource use and development.

Soils of India. BY S. P. RAYCHAUDHURI, R. R. AGARWAL, N. R. DATTA BISWAS, S. P. GUPTA, AND P. K. THOMAS. *1963. Indian Council of Agricultural Research. New Delhi. 496 pp., maps.* "Soil is the most important natural resource of the country and an intimate knowledge of this is a pre-requisite in any national development plan" says the opening sentence of the preface. This report purports to bring up to date all the data collected on the subject up to 1960.

Time, Space and Demand for Natural Resources. *Proceedings of the Nineteenth Annual Meeting, Soil Conservation Society of America, Jackson, Miss., 1964. SCSA, Ankeny, Ohio. 216 pp., appendix 41 pp.; mimeo. $5.00.* Copies of the papers, reports of committees and officials, and accounts of tours at the meeting.

Soil and Water Conservation Research in the Northeastern States. BY CLARENCE S. BRITT. *1965. USDA Misc. Pub. 984. 24 pp., illus.* A description of sedimentation, hydrologic, hydraulic, irrigation, brackish water, drainage, water and wind erosion, soil management, soil, and water and plant relations research.

Water Resources Research. *Vol. 1, No. 1. First Quarter, 1965. Published by the American Geophysical Union, Washington, D.C. 145 pp., illus. $8.00 a year ($3.00 to members), $2.50 a copy. Walter B. Langbein and Allen V. Kneese, editors.* Open to "original scientific contributions in the sciences of water."

The Demand and Price Situation for Forest Products 1964. BY DWIGHT HAIR AND ALICE H. ULRICH. *1964. USDA Misc. Pub. 983. 50 pp., tables, charts.* Current trends and the long-range outlook for timber products.

Guide for Assessing Recreation Possibilities on Private Land. BY FEDERAL EXTENSION SERVICE. *1964. USDA PA-642.* The foldout leaflet includes a form for analyzing your prospects for success with an income-producing recreation enterprise on your property.

The Pilot Cropland Conversion Program, Accomplishments in its First Year, 1963. BY JAMES VERMEER AND RONALD O. AINES. *1964. USDA, Agr. Econ. Rpt. 64. 47 pp.* A statistical report.

Budgeting Farm and Ranch Recreation Enterprises. BY GLENN J. VOLLMAR. *1964. USDA ESC-559. 15 pp.* A guide for budgeting as a pre-planning step in recreation enterprises. ♦

From the Administrator:

The Challenge of Appalachia

APPALACHIA is not a new problem area to the Soil Conservation Service. For years we have recognized the peculiar needs of this region and have taken some specific actions to try to meet them.

SCS programs are particularly adapted to many of Appalachia's basic resource development needs. The people generally are receptive to these programs. How, then, will the Appalachian Regional Development Act of 1965 help the people take further advantage of programs administered by SCS?

Let us first examine the concept of the Appalachian Regional Development Program.

The Conference of Appalachian Governors, composed of the governors of the States in which the region lies, requested the Federal Government to assist them with a program that would help the people to help themselves.

Such a program would require an improvement of the economic base if sustained benefits were to be realized. It was necessary, therefore, to analyze the needs and potentials of the region as a basis for program development.

SCS participated in that study and in the development of those aspects of the program involving soil and water conservation and water resource development.

Early in 1964 the President's Appalachian Regional Commission submitted its report. It defined the needs of the region and provided the basis for legislation which was enacted March 9, 1965, as Public Law 89-4.

Of the many provisions of the act, there are only two under which SCS has direct cooperative responsibilities. These are "land stabilization, conservation, and erosion control" (Sec. 203) and "water resource survey" (Sec. 206). Strip mine area rehabilitation may also become of direct interest as the program develops.

At the same time, we have a challenging opportunity to accelerate the watershed program already under way in the area. If the States and local people cooperate to increase this program, it could provide a great stimulus to rural communities in Appalachia.

Section 203 authorizes the Secretary of Agriculture ". . . to enter into agreements of not more than ten years with land owners, operators, and occupiers . . . providing for land stabilization, erosion and sediment control, and reclamation through changes in land use, and conservation treatment including the establishment of practices and measures for the conservation and development of soil, water, woodland, wildlife, and recreation purposes."

This provision introduces into the Appalachian Program contract provisions similar to those of the Great Plains Conservation Program. It will permit land owners and operators to make long-term conservation and development plans for their farms and assure them cost-sharing up to 80 percent of the cost of establishing the agreed-upon measures on not to exceed 50 acres.

I feel that these provisions of the act should provide a significant degree of acceleration to soil conservation district operations. Under the authorities of our conservation operations program we will provide increased technical assistance to meet the larger workload. SCS will also establish a plant materials center to more adequately serve the region.

The water resource survey under Section 206 will be carried out under the direction of the Secretary of the Army. SCS will cooperate with the Army and other agencies in about the same way as in the present river basin surveys.

Our activities under this section will supplement studies already under way or completed.

There is a great need and opportunity to accelerate water resource developments. We expect to speed up both planning and operations phases of Public Law 566 watershed activities.

There is already a significant backlog of applications for assistance in watershed projects. But applications do not tell the whole story. Some States have needs far in excess of those reflected by active applications on file.

One of the big obstacles to installation of approved plans has been the inability of the sponsors to meet their obligations for easements and rights-of-ways. Section 214 provides for "supplements to grant-in-aid programs," including watershed protection programs. An analysis of approved projects indicates that approximately 75 percent of the Appalachian watershed projects would be eligible for some assistance under this section. This section may offer an excellent opportunity to overcome specific obstacles in some projects.

The Appalachian Regional Development Act provides a unique arrangement for joint Federal and State attack on social and economic problems of a region. The success of the program will depend on how effectively Federal and State efforts can be coordinated in this endeavor.

The potential impact of this program on the regional and National economy challenges an "all out" effort at all levels to make it work.

—D. A. WILLIAMS

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Great Plains Rancher Prepares for Rain

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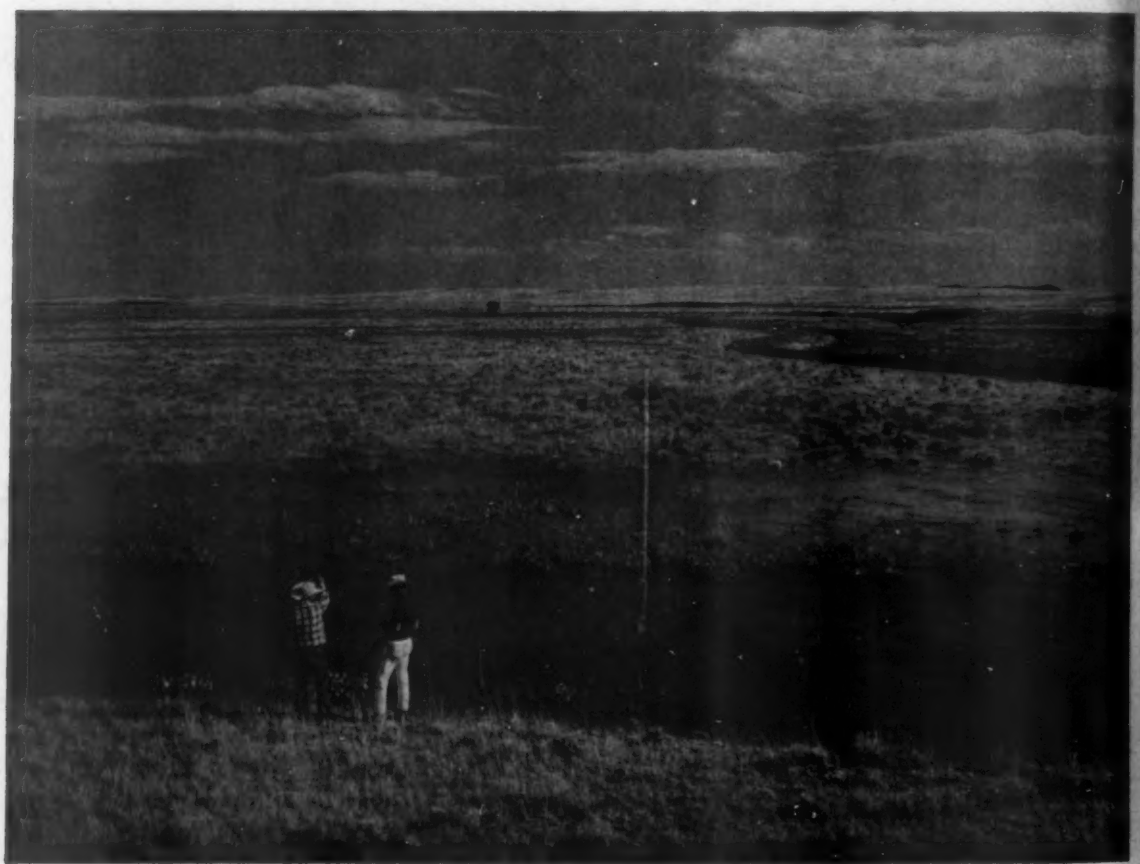

Rancher Lonnie Adams (l.) and SCS Conservationist Clayton Ogle are pleased with the first flooding of a new water-spreading system.

The dikes are at 6-inch vertical intervals on the flood plain, so water released from a storage reservoir gives the entire area a good soaking.

Western wheatgrass covered the bare areas, and Rancher Adams harvested hay for use as winter feed. The system is part of a completed conservation plan under the Great Plains Conservation Program.